



#### **ABSTRACT OF THE DISCLOSURE**

0008. Survival of the fetal allograft is in large part dependent upon the establishment of a "harmonious interaction" between the trophoblast and decidual lymphocytes. It has been suggested that upon arrival at the site of implantation, a novel gene of non-classical human leukocyte antigen (HLA) class I antigen, HLA-G, produced predominantly by the extravillous cytotrophoblast (which represents the only fetal cells that are in direct contact with maternal decidual cells) immediately signals decidual lymphocytes. In response, these lymphocytes release growth factors (cytokines), initiating a "cross-talk" with the embryo, referred to as the cytokine network. It is this "dialogue" that is believed to establish and promote implantation.

0009. The detection of sHLA-G in embryo culture media of grouped and single embryos that are most likely to implant suggests that sHLA-G may have a role in optimizing implantation potential in IVF procedures.

0010. sHLA-G has recently been isolated from the culture media surrounding pooled developing embryos and blastocysts. It has been observed that the absence of sHLA-G in the supernatant surrounding groups of embryos in culture is associated with significantly reduced IVF implantation and pregnancy rates. I propose that addition of sHLA-G to the medium in which embryos are cultured and/or delivered into the uterine environment through embryo transfer, will enhance implantation and pregnancy potential of those embryos.